Green Forage and Silage Nutritive Value of Double Purpose Winter Species

Renato S. Fontaneli
EMBRAPA, Brazil

Rob S. Fontaneli
Universidade de Passo Fundo, Brazil

J. W. Dürr
Universidade de Passo Fundo, Brazil

H. P. dos Santos
EMBRAPA, Brazil

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Green forage and silage nutritive value of double purpose winter species

R .S . Fontaneli[1,2] , Rob . S . Fontaneli[2] , J .W . Dürr[2] , H .P . Santos[1]
[1] National Wheat Research Center , Brazilian Agricultural Research Corporation (Embrapa Trigo) PO Box 451 , 99001-970 Passo Fundo , RS , Brazil . E-mail : renatof@cnpt .embrapa .br , [2] Universidade de Passo Fundo —FAMV/UPF , 99001-970 Passo Fundo , RS , Brazil

Key words : wheat ,triticale ,rye ,oat ,barley

Introduction Adequate animal nutrition is essential to high animal yield , reproduction efficiency , and profitability . This work aims to evaluate nutritive value of fourteen cool-season genotypes as pasture or silage .

Material and methods The trial was conducted at Agronomy research station in Passo Fundo , Brazil . A randomized complete block design replicated three times . The plots were composed by seven rows 0 .2 m apart and 5 .0 m long . Seeding date was April from 2003 to 2005 . The fertilizer applied was 250 kg/ha of 5-25-25 (N-P_2O_5-K_2O) plus 30 kg N/ha (urea) at tillering and after the harvest . The plants with 30-cm height average were clipped to a 7 .0-cm stubble height . Nutritive value analized using near infrared spectroscopy (NIRS) .

Results The forage nutritive value on green tissue harvested was high . The average CP concentration was 22 .8% and the digestibility was 69 .1% (Table 1) . The silage decreased CP concentration to 8 .9% and the digestibility to 61 .5(Table 1) .

Table 1 *Crude protein (CP) , neutral detergent fiber (NDF) , acid detergent fiber (ADF) , and dry matter digestibility (DMD) concentration (%) of winter cereals .*

	Green forage				Silage			
Winter cereals	CP	NDF	ADF	DMD	CP	NDF	ADF	DMD
Oat UPF 18	21 .5 efg	50 .0 e	23 .0 gh	71 .0 ab	9 .5 abc	58 .3 h	32 .0	64 .0 ab
Oat IPFA 99009	24 .0 abc	52 .1 b-e	24 .9 c-f	69 .5 c-f	10 .9 a	65 .1 bcd	37 .1 ab	60 .0 de
Oat Agro Zebu	25 .0 a	50 .6 de	23 .6 fgh	70 .5 abc	10 .2 ab	67 .3 ab	39 .4 a	58 .2 e
Rye BR 1	23 .3 bcd	52 .9 a-d	24 .7 d-g	69 .7 b-e	8 .3 cd	69 .2 a	39 .0 a	58 .5 e
Rye BRS Serrano	22 .5 c-f	52 .3 b-e	25 .2 b-f	69 .3 c-g	9 .0 bcd	66 .7 abc	37 .3 ab	59 .8 de
Barley BRS 195	21 .0 fg	50 .7 cde	26 .6 abc	68 .2 fgh	8 .3 cd	59 .3 gh	31 .9 e	64 .1 a
Barley BRS 224	20 .8 g	52 .9 a-d	27 .7 a	67 .3 h	7 .8 d	61 .4 fg	31 .8 e	64 .1 a
Barley BRS 225	22 .5 c-f	53 .2 abc	26 .4 a-d	68 .3 e-h	8 .9 bcd	61 .0 fgh	33 .0 de	63 .2 ab
Trit .* BRS 148	22 .8 b-e	53 .8 ab	24 .3 e-h	70 .0 a-d	8 .1 cd	66 .1 a-d	35 .6 bc	61 .2 cd
Trit . BRS 203	24 .2 ab	52 .9 a-d	25 .8 b-e	68 .8 d-g	8 .3 cd	64 .7 b-e	36 .4 bc	60 .5 cd
Trit . Embrapa 53	23 .2 bcd	53 .9 ab	22 .7 h	71 .2 a	9 .3 bcd	63 .4 def	33 .9 cde	62 .5 abc
Wheat BRS Figure**	23 .7 abc	55 .2 a	27 .9 a	67 .2 h	8 .8 bcd	61 .6 efg	34 .5 bc	62 .1 bc
Wheat BRS Umbu	23 .4 a-d	53 .6 ab	26 .8 ab	68 .1 gh	8 .0 cd	64 .6 b-e	35 .6 bc	61 .2 cd
Wheat PF 990423	21 .8 d-g	49 .9 e	25 .6 b-e	69 .0 d-g	9 .0 bcd	63 .9 c-f	35 .5 bc	61 .2 cd
Média	22 .8	52 .4	25 .4	69 .1	8 .9	63 .8	35 .2	61 .5

Values within a column followed by the same letter are not different (P>0 .05) by Duncan .
Trit .= triticale ** Figure = Figueira

Conclusion It is possible to get precocious forage during late fall and harvest again for silage of winter species such as oat , rye , barley , triticale , and wheat special genotypes .